THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

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Nature of Soils.

A knowledge of the nature of soils is indispensably necessary to the practical agriculturist. The varieties of soil may be ranked under the following heads:—Sand, clay, gravel, chalk, loam, marl. By different combinations of these substances, all the intermediate kinds of soil are formed; and on a proper mixture of them, in certain proportions, depends the general fertility of the earth, and the success of the farmer's labor.

The two extremes in soils, are tough wet clay, and loose dry sand. Each of these has its peculiar plants, which will not grow in the other, although they are few in number, and of little known use. But the plants common to both these soils, will grow and thrive better in loam, which is a middle species of earth, composed of these two extremes, partaking equally of the good qualities of both, without the bad ones. For this reason, lands which partake of the different properties of clay and sand, or which, in other words, are a kind of compound, wherein the properties of clay and sand are so united as to correct each other, are generally the most fruitful, and produce the greatest mass of vegetables. This will more evidently appear, if it be considered in what manner plants and vegetables are nourished, and what it is that gives them bulk, vigor, and firmness.

When the seeds of plants are deposited in the earth, certain degrees of warmth, air, and moisture, are necessary for the expansion of their vessels, and the extension and firmness of their fibres and solid parts. For these purposes, stiff clay and loose sand, are both, while separate, very unfavorable; the former, by the closeness of its texture, retains the water like a dish, admits too little heat or air, and prevents the tender fibres of young plants from shooting freely to such distances as are necessary for obtaining a sufficient quantity of proper nourishment. The latter, from the looseness of its texture, admits heat too freely, and is not capable of retaining a sufficient degree of moisture for the purposes of vegetation. The particles of vegetable nutriment are either absorbed by the heat, or washed down by the rains too low for the roots of plants to reach them. Hence, few plants will come to maturity on mere sand, except such as extend their roots very deep, and attract nourishment from a stratum below it. In stiff clays there is little fermentation, the salts being so confined and locked up by the tenacity of its texture, that they cannot act. In light dry sands they are speedily evaporated by heat.

All sands are hot and dry—all clays cold and wet; and, therefore, the manuring sandy lands with clay, or clay lands with sand, is best, for this changes the nature of the land itself; whereas dung, and other substances, afford only an inferior and temporary improvement. Mixed soils, which incline to the clayey kind, are best for corn and pulse. But it is not the natural soil only that the farmer ought to consider, but the depth of it, and what lies immediately underneath it. For if the richest soil is only seven or eight inches deep, and lies on a cold wet clay or stone, it will not be so fruitful as leaner soils that lie on a better under stratum. Gravel

is perhaps the best under stratum to make the land prolific.

The best loams, and natural earths are of a bright brown, or hazely color. Hence, they are called hazel loams. They cut smooth and tolerably easy, without clinging to the spade or ploughshare; are light, friable, and fall into small clods, without chapping or cracking in dry weather, or turning into mortar when wet. Dark grey, and russet mould, are accounted the next best. The worst of all, are the light and dark ash-colored. The goodness of land may also be very well judged of by the smell and the touch. The best emits a fresh pleasant scent on being dug or ploughed up, especially after rain; and being a just proportion of sand and clay intimately blended, will not stick much to the fingers on handling. But all soils, however good, may be impoverished, and even worn out by successive crops without rest, especially if the ploughings are not very frequently repeated before the seed is sown.

If we examine tracts of land which have not been cultivated, we find nature has adapted different kinds of plants to most of the distinguishable varieties of soils; and although some belonging to *one*, may from some cause or other, be found on lands of a different quality, they seldom thrive, or perfect their seeds, so as to become general. The great care of the farmer ought, therefore, to be, by proper mixtures, to reduce his land to that state and temperament in which the extremes of hot and cold, wet and dry, are best corrected by each other; to give them every possible advantage flowing from the benign influences of sun and air; to adopt such kinds of plants as they afford in this state the greatest nourishment to; and to renew their fertility by a judicious allowance of the most proper manures. Where these things are done, there are few spots so unfriendly to cultivation as not to repay his expense and labor with a plentiful increase. But without these, the best tracts of land will in time become a barren waste, or produce little but weeds.

Small Farms.

The following judicious and well-timed article, appeared originally in the Maine Farmer, published at Winthrop, under the editorial direction of E. Holmes, Esq. The position assumed by the writer is well supported by both *facts* and agruments, which, if duly considered, may tend to contribute many advantages to our present system of rural economy. It may be urged, says the editor of a public journal in one of the central counties of this state, that large farms in this quarter, are not numerous when reference is had to the quality of the land under actual cultivation.—This is no doubt true, if we compare this with other sections of our country, but still the same amount of labor bestowed upon a less amount of land might produce results equally, if not more, satisfactory to the farmer, than the method now generally pursued. As the land in this delightful mountain region, produces a variety of grasses, in such rich abundance, the farmers might find, in this consideration alone, ample reason for reducing to practice the plausible theory recommended in the article to which we would draw their attention. Men in general perform hard labor with too much reluctance to authorise the belief, that they would prefer labor for its own sake, without a due regard to the *benefits* they expect to derive from their toil. The view taken of the subject in the production we publish, may serve to satisfy many an undecided mind, that in the interior of Pennsylvania, farmers can live as well and become as rich, as those who may scatter their families, by removing to the "far West."

"There is a great mistake among farmers. And it is, they covet too much land. Almost all our farms are from four to ten times too large. A farmer never feels that he has got enough. He adds field to field, does not half subdue or manure what he has got, and still wants more. One of the most productive and profitable farms I ever saw, contained but fourteen acres.—It was very much subdued, and improved, and manured; and the owner was what was called a very thrifty, if not a rich man, while his neighbor who skims over three hundred acres, and works full as hard, grows poor. By proper management, I am satisfied every acre of land which is fit to raise corn upon, can be made to yield one hundred bushels to the acre. Is it not better to put the manure and care and labor upon it and raise one hundred bushels, than to spread the same over four acres, and thus drive away three or four of your sons to the west? As things now are, what is the process? I will tell you. A man owns one of our large farms. It is paid for. He raises up a large family. The girls are married off, and he gives each one her portion. He himself, and his farm falls to his five sons. One of these five sons takes the farm and agrees to pay the other sons their shares. They go off to the west and return no more. He undertakes, by economy and industry, to keep and send a fourth of its value to the west. By and by he finds he cannot do it as fast as he agreed to do it. He goes to the Life Insurance Company, or somewhere else, mortgages his farm, and starts anew to pay for it. All his life he toils, pays interest.

thinks the farmer has a hard row to hoe, and it is not till near the close of life he gets free from debt. When he dies the same process has to be gone over again, by every generation, who sends four-fifths of the value of our land after them. Now this is poor policy, and I sometimes wonder that our farms are in any-tolerable condition; for their worth many times over has been sent away to the west. If, instead of this, our farmers would divide up their farms, and make every acre yield all it can, our towns would not have the appearance of age and decay, which most of them have. "Praise a great farm," says the immortal poet of Rome, "but cultivate a little one."

I have noticed that men, as they grow old, seem to want more land; and seldom do you find a man who feels he has enough. I know they talk of the fertility of the west, and the beautiful land to be found there. And I know, too, that a young man going out there, if he does not die under it, will, in a few years, become thrifty. And why? The process is easily described. He goes into the wilderness, purchases his land, lives in his log cabin, sleeps on the floor, or more likely upon the ground, eats upon a slab, pinned up into the logs, and eats what comes to hand, working early and late, and it would be wonderful indeed if he did not gain property. And so would he here. Let a young man take the poorest farm you can name, and labor on it as hard and live just as he does at the west for fifteen years, and he will be rich here. It is not so much the land that makes the difference, as it is the manner of living, between the west and the east. I was struck while riding in the stage, in listening to the conversation between two farmers, the one from Illinois, the other from the state of Maine. The western man was describing the fertility of soil, contrasting it with New England. "Why, how much corn can you raise to the acre?" says our man from Maine. "I can raise seventy bushels with all ease." "And how much do you get a bushel?" "Nine pence a bushel at my door."* Well, says the Maine farmer, "I can raise three hundred bushels of potatoes on my land and get twenty cents at my door." "Aye, you have to dig them." "True, and don't you have to pick and shell your corn, and after all get but twelve and a half cents a bushel, and only seventy bushels on an acre." I repeat it, with the same economy and the same industry, a young farmer here can get rich as easy as at the west. Whether they will practice equal economy is more than I can say. But let fashion once prevail of having smaller farms and having them cultivated, and you will be surrounded by your own sons, instead of large land holders and a floating population, who hire themselves out to cultivate it, and have no land.

The Genesee Farmer, in an article on the size of farms, says, the productions of a farm should not be confined to one or two articles; the farmer should not be principally a wheat grower, not a drover, nor a shepherd, but should attend nearly equally to all these different branches. When the business is thus varied, too much work does not occur at one time, nor too little for the employment of the hands at another. This variety of business is also necessary to the improvement and enriching of the soil—to the production and application of manure, and to maintaining the benefits of rotation in crops. But it cannot be advantageously adopted on very small farms, as there would be a great waste of ground, and a great expense of material, for partition fences, and a loss of time by attention to a great number of small crops.

Another disadvantage of small farms is, that labor saving machinery cannot be so profitably used on them; for where these are expensive, and the quantity of work they perform is small, the interest on them is a heavy drawback on the profits of the farm.

Notwithstanding all these disadvantages, there is not one farmer in a hundred who has not more land than he can cultivate in the best possible manner; or to speak more correctly, there is not one in a hundred who has sufficient additional capital to carry on profitably all the operations of the farm. A farmer must be able to expend a large sum in addition to what he does in paying for his land, if he expects to make money by the business. But instead of this, the common practice is, to expend all the additional capital which is realised by farming, in purchasing *more land*. Instead of doing this, it would be much better for the farmer to *sell* a part of what he first had, if this is the only way for obtaining additional capital for carrying on his operations.

We will suppose the case of a farmer commencing business with five thousand dollars; if, with one half this sum he buys a farm of fifty acres, and with the other half he improves it to a high state of fertility, he will do far better than if he should purchase a hundred acres, and have no further means of improving it or of performing the work upon it in the most advantageous manner. Most land, by a judicious expenditure to the amount of its cost upon it, may have its productiveness increased four fold, and its profits to an almost incalculable amount; if, therefore, a farmer can raise from fifty acres, twice the amount of produce that he does

* Twelve and a half cents.

from a hundred acres, he will not only receive twice as much for it, but he will be able to raise this amount with even less than one half the labor that he does from the hundred acres, because land in good condition is much more easily tilled than that in poor condition. Thus, with only fifty acres, he would, in fact, experience the advantages of large farms to a far greater extent than if he should purchase a hundred acres.

Successful Farming.

From D. P. King's Address before the Essex Agricultural Society.

We have been accused of cropping our lands severely without cultivating and manuring them in any reasonable proportion; of mowing our fields many years in succession till their over taxed, exhausted energies, can yield us nothing more. The high prices of labor and manure, and the difficulty of obtaining them, have been alleged as excuses for this thriftless and cruel practice, and there is something of truth and more of plausibility in the defence. As a remedy for these evils, and a sure way of improving your land, I can do nothing better than to recommend to you the method practised for several years with great success by Elias Phinney, Esq., of Lexington. Without offering an apology to Mr. Phinney, I shall make an extract from his Address, delivered before the Society of Middlesex Husbandmen and Manufacturers in 1830. "In May, 1828, the field (the soil of which is thin loam upon a gravelly sub-soil) having lain three years to grass, and the crop of hay so light as to be worth not more than the expense of making, with a view of ascertaining the quantity of vegetable matter upon the surface, I took a single foot square of green sward, and after separating the roots and tops of the grasses from the loam and vegetable mould, it was found, on weighing, to contain nine ounces of clear vegetable substance, giving, at that rate, over twelve and a quarter tons to the acre. This convinced me of the importance of taking some course, by which this valuable treasure might be turned to good account. That a great part of this vegetable matter is exposed to useless waste, by the usual mode of ploughing, cross ploughing and harrowing, must be obvious to any one. In order, therefore, to secure this, as well as the light vegetable mould at and near the surface, which is liable to waste from the same causes, I had two acres of the green sward of this field turned over with the plough as smoothly as possible. After removing the outside furrow slices into the centre of the plough-land, and thereby effecting the double purpose of covering the vacant space in the middle, and preventing ridges at the sides and ends, the field was rolled hard with a loaded roller, by which the uneven parts of the furrows were pressed down, and the whole made smooth. It was then harrowed lengthwise the furrow, with a horse harrow, but so light as not to disturb the sod. Twenty cart loads of compost manure, made by mixing two parts of loam or peat mud with one of stable dung, were then spread upon each acre. It was then harrowed again as before, and then the poor part of the soil, which had been turned up, and remained upon the surface, was thereby mixed with the compost manure. Corn was then planted in drills* upon the furrows, the rows being at the usual distance and parallel with the furrow. At hoeing time, the surface was stirred by running a light plough† between the rows, but not so deep, at this or the subsequent hoeing, as to disturb the sod. What Mr. Lorain calls the "savage practice" of hilling up the corn, was cautiously avoided. In the early part of the season, my cornfield did not exhibit a very promising appearance; but as soon as the roots had extended into the enriching matter beneath and began to expand in the decomposing sward, which had now become mellow, and more minutely divided by the fermentation of the confined vegetable substances beneath, than it could have been by the plough or hoe, the growth became vigorous, and the crop, in the opinion of those who examined the field, not less than seventy bushels of corn to the acre. As soon as the corn was harvested, the stubble was loosened up by running a light horse plough lengthwise, through the rows, the surface then smoothed with a brush harrow, and one bushel of rye, with a sufficient quantity of herd's grass and red top seed, to the acre, was then sowed, the ground again harrowed and rolled. The crop of rye was harvested in July following, and the two acres yielded sixty-nine and a half bushels of excellent grain, and over five tons of straw. The grass seed, sowed with the rye, took well, and the present season I took, what those who secured the crop judged to be, two and a half tons of the very best of hay from each acre.

Thus, with one ploughing, with the aid of twenty cart loads of compost manure to the acre, I have obtained two crops of grain, and stocked the land down to grass."‡

The great object of the farmer is to obtain the most valuable products, with the least possible labor, and at the same time to keep his farm in a state of progressive improve-

*It might be planted in hills, if that course is preferred.

†Mr. P. now uses the cultivator instead of the plough.

‡William Clark, jun., of Northampton, and Daniel Putnam, of Danvers, have adopted similar methods of husbandry, and have been very successful.

ment; by this method large crops have been obtained with a small expense of labor and manure—but some of little faith may object that it is the result of a single experiment; that there may have been something peculiar in the soils or the seasons; that with others it would have been a complete failure, and that most likely the land soon became exhausted. But Mr. Phinney has practised and continues to practice the same kind of husbandry with the same success, and with increasing confidence. The field on which he made the experiment which he has so clearly and satisfactorily detailed, has remained in grass till the present season, and has continued to yield two tons of good hay to the acre, without any top dressing. Other farmers have followed the same method on a great diversity of soils, and although a plain field and loamy soil may be best adapted to the purpose, there are none except very wet or very rough and rocky grounds which cannot be greatly improved by it. There is nothing unreasonable or unphilosophical in this method, and success would seem to follow it as naturally as effect follows cause. I know that there are many farmers who believe that the *good old way* is the best way, but let the most incredulous of these visit the farm of Mr. Phinney, which, but fifteen years ago, produced but nine tons of hay and which now produces seventy; let him go into those well mellowed fields and see the corn waving in its beauty and ripening into a golden harvest, yelding nearly one hundred bushels to the acre, and potatoes in equal abundance; let him witness all the improvements of that well managed and thoroughly cultivated farm, (which, in natural advantages, perhaps, does not exceed his own,) and that skeptical farmer, who went out hesitating and unbelieving, will come home with a settled conviction that Mr, Phinney is a farmer of great skill and enterprize, enlightened by a sound judgment: he will cheerfully admit that his method of cultivation is a great improvement, and he will apply it to his own farm as far as circumstances will allow. I should not have dwelt so long on this subject, if, from my own observation and the experience of others, I had not been fully satisfied that the adoption of a similar method of husbandry would be beneficial to our own fields.

Lime for Wheat.

Wheat, we are told, is improved for seed, by being kept on hand a year, and will then produce a crop without smut, and will not be injured by the fly. Judge Buel, a celebrated agriculturist, residing near Albany, observes, "I am almost a proselyte to the opinion that the nit is deposited in the down of the kernel before the grain is harvested, and that the same warmth which causes the seed to vegetate in the earth, hatches the insect there also. I am inclined to favour the hypothesis, and not without evidence, that the seed of both the smut and the fly lose their reproductive power during the lapse of a twelve-month. I will not venture to say that liming seed is as efficacious against the fly, as it is against smut; but this much I can say, that I always lime my seed wheat, and never have it injured by smut or fly, while many fields in my neighborhood are annually divested by the one, or materially injured by the other."

The use of Lime as a Manure for Wheat.—The application of lime to wheat culture is one of the most important improvements in modern husbandry. It is well know that our lands, were the soil is fit for any kind of arable products, will yield good crops of wheat, when first cleared of their native growth of wood; but, after having been tilled some years, they generally produce wheat with difficulty, and it is often found impossible to obtain it by any of the common modes of culture. In most parts of Massachusetts, and in some parts of New-Hampshire and Vermont, the farmers for a long period scarcely ever attempted to raise wheat, and still more rarely succeeded when they did attempt it. Yet wheat was a common and profitable crop in those places in the earliest periods of their settlemet. In process of time, however, the land became incapable of producing that precious product, and our farmers were compelled to forego its culture, till quite recently it has been successfully cultivated by means of manuring with lime.

Similar variations and appearances have likewise been observed in Europe. Wheat countries, by continued tillage, have become almost incapable of yielding wheat. The cause and remedy of this partial barrenness, this incapacity in the soil to produce plants, which it had once brought forth in abundance, were alike involved in obscurity, till modern discoveries in chemistry threw light on the subject. It has been found that the texture of every soil is deficient, unless it contains a mixture of three kinds of earth, viz. clay, sand, and *lime*; and that lime in some of its combinations, exists in wheat both in the straw and in the kernel. In some soils, fertile in other respects, lime may either have no existence, or be found in very minute portions, and be soon exhausted. If lime be a constituent of wheat, and is not in the soil when we attempt to raise that crop, we must furnish lime by art, or wheat will not grow. Or if native lime exists in the soil in small quantites, the land may bear wheat till the lime is exhausted, and then become incapable

of producing that plant till a fresh supply of lime, marl, pulverized bones, or some other calcareous substance is added.

Mr. Young, of Nova Scotia, an able English writer on agricultural topics, says, "It cannot be denied, that since the plentiful use of lime has been adopted, lands in Europe will produce wheat which otherwise were incapable of bearing it; and he quotes several instances in favor of this assertion. Dr. Anderson likewise gives an account of a field which had a top-dressing of lime for the purpose of raising wheat; but the lime, by accident, was not applied to a small patch of the field, and in that patch there was no crop, while every part to which lime was applied produced wheat luxuriantly. It would be easy to adduce many more instances to show that lime, in Great Britian, is considered not only useful but indispensable to the production of wheat.—*American Almanac.*

From the Genesee Farmer.

Best Sheep for the Common Farmer.

The question has been sometimes asked, what kind of sheep are the most profitable for the *common farmer*—he whose flock can rarely exceed one or two hundred in number, if it reaches that amount!—and it has been answered in various ways, too frequently, perhaps, as preconceived notions or self-interest at the time prompted. One farmer has maintained the exclusive superiority of the Saxony, another that of the Merino, while for the common farmer another has preferred the heavy bodied, long coarse wooled sheep, but little differing from our native sheep previous to the introduction of the Merino. An examination of the prices current for a year or two past will show that the average of the three kinds of wool would be respectively 70, 50, and 37½ cents per pound. The quantity produced on an average from the three kinds will not vary much from the following estimate:

Saxony, per sheep	2½ pounds,	70	$1,75
Merino, "	3 "	60	1,80
Long wooled,"	4 "	37½	1,50

Some farmers, however, contend that the deficiency in fleece in the long wooled sheep is more than compensated by the greater weight of carcass; and breeding expressly for the butcher, this consideration should undoubtedly have its weight. Besides, the acknowledged tenderness in rearing of the finer wooled kinds would operate as a drawback on their profit; still it would seem that at present prices fine wooled sheep are on the whole the most valuable. I would suggest, however, whether it would not be possible for a breed of sheep to be produced, which would be more profitable for the *common farmer*, by combining weight of carcass, hardihood of rearing, and sufficient fineness of wool, than any that is now generally known.

The Maryland Board of Agriculture proposed a series of questions to the agriculturists of that state, on some of the most important topics of farming, and the answers received and published, form a most valuable addition to our knowledge of the best methods of farming. One of these questions was as follows:—"What species of sheep do you consider the most valuable to farmers generally, and what are the best methods of managing sheep and lambs?" Among the answers to this question was one from Samuel Stevens, Esq., from which I extract the following sentence as well worthy of notice:

"On this subject (sheep growing) I possess the pride and ambition of a farmer, and fearless of contradiction, I pronounce the *Bakewell* sheep, bottomed on the Merino*, the most profitable. In the first place, the Merino gives a fine beautiful wool, and when crossed by the Bakewell, you add beauty and size, both having a predilection for fat, and are of uncommon fine flavor, and what is important and remarkable, they are ready for the butcher at eighteen months old, and if suffered to remain until two years old, they will increase in beauty, size and fat, superior to any other breed of sheep I have ever seen, and on as little food."

There can be no doubt but that the long wool and fine carcass of the Bakewell or Leicester breed, engrafted on the fine wool and aptitude to fatten of the Merino, would produce a kind of sheep superior for *all* purposes to any that the common farmer now possesses. It is evident that the finer wooled flocks require more care and attention than the ordinary farmer can bestow with profit, and the ancient coarse wooled breeds furnished wool of such inferior quality that no man would think of having it manufactured into cloth. Some good sheep of the kind recommended for crossing are to be found in the country, and the general introduction of a crossed breed that shall combine the qualities proposed above, would be of most essential service to a vast majority of our farmers—men who have but little time to devote to theoretical experiments, but who

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* *Note*—To give the reader an idea of the pure Bakewell breed, I will state, that Mr. Barney, of Philadelphia, a year or two since, purchased a year old imported ram of this blood for $150. Another one imported at the same time was sold for $160, and taken to Ohio. The one purchased by Mr. Barney was a very large sheep, fine form, with wool twelve or thirteen inches long, and shearing twelve and three-fourths pounds, when one year old. There can be little doubt that a cross of this fine animal with the silky merino, will prove a superior breed, and better for the ordinary farmer than any now existing.

would readily embrace any opportunity of so clearly adding to their profits. It is to be hoped this subject will not be lost sight of by sheep growers, but carried into effect as an object essential to our prosperity.

Choosing Sheep for Breeding.

One of the two species of sheep, the long and the short wooled, having been chosen as the most appropriate to the situation, and wool being made an object, it is most advantageous to select such flocks as are pure as possible of the species to which they belong, and not a mixture of the short and long wooled breeds, which must generally produce an inferior fleece, disadvantageous to the manufacturer. Length of staple in the long, and fineness, elasticity, and closeness in the short wooled fleece, will be the best guides in this case.

Whether the wool be long or short, the carcass of the animal ought to be amply and regularly covered; it is a great defect when the belly is bare, and still greater when the wool is thin and open on the ridge of the back, admitting rain and moisture to a most susceptible part, indeed, to descend upon all parts of the body.

It is a piece of good old advice to buy your *rams* a little before shearing time, if possible; and a very necessary modern addition, to make the opportunity of purchasing at the farmer's house, while you see the animal in *puris naturalibus*, and before he has been decked out and trimmed for show by the sheep barber. A thick fleece, covering all parts with as much equality as possible, containing plenty of *yolk*, or retained, or insissipated perspiration, is the object. If ewes, equally well-bred, can be procured, the shepherd anticipates and reaps an immediate benefit; if not, he must patiently wait improvement of this wool, through the medium of the superior blood of his rams.

At shearing time, examine the bottoms of the fleece, or the lower extremity of the filaments of wool; if it be stichy-haired, of mixed quality, or if the sheep have a coarse breech, or be not well covered, it must be rejected, as improper for a breeding stock, where it would perpetrate its defects. The quantity of yolk or grease is a good proof of the thickness of the wool, the grease or perspirable matter of the animal is retained; hence, fine, curled wool, has ever the greatest quantity of yolk.—*Bath Memoirs.*

Diseases of Sheep, &c.

For the foot rot in Sheep.—Take alum, green vitriol and white mercury, the first in the largest proportion: dissolve them in water, and after the hoof is pared, anoint it with a feather, and bind on a rag all over the foot. The Middlesex shepherds use the green vitriol alone, after pounding it fine. Others again anoint with a feather dipped in aqua fortis, or weak nitric acid. The drovers to Smithfield carry a bottle of this with them, to apply to lame sheep. It hardens the hoof and enables the sheep to travel better. An other mode is to spread three or four inches of slack lime over a floor, pare the sheep's feet well, and turn them into this house, where thay may remain for a few hours, and then be put into a dry pasture. The treatment may be twice or thrice repeated.

To prevent the foot rot.—Keep the sheep in dry pastures, and if stony the better; examine them often and carefully; and when any fissures or cracks, attended with heat, make their appearance, apply oil of turpentine and common brandy. When these do not avail, wash the diseased part, and pare as close as possible without drawing blood, and apply some of the caustics above named. In all cases it is of great consequence that the animal be afterwards exposed only to a moderate temperature—be invigorated with proper food and kept clean in early dry pasture.

To prevent sheep from catching cold after being shorn.—Rub them with water saturated with salt, or plunge them in sea water.

To cure the scab.—Sir Joseph Banks gave the following prescription to the Society for the encouragement of arts: take one pound of quicksilver, half pound Venice turpentine, half pint oil of turpentine, and four pounds hog lard; rub them in a mortar till they are well incorporated. Then begin at the head of the sheep, proceed from between the ears along the back to the end of the tail; the wool is to be divided in a furrow till the skin can be touched, and as the furrow is made, the finger, slightly dipped in the ointment, is to be drawn along the bottom of it, where it will leave a blue stain on the skin and adjoining wool. From this make similar furrows down the shoulders and thighs to the legs, and if the animal is much infected, two should be drawn along each side, and the ointment applied in all.

To cure the measles in swine.—The existence of the disease can only be known by the animal not thriving or fattening like the rest. Put into the food of each hog, once or twice a week, as much crude pounded antimony as will lie on a shilling. This is very proper for any feeding swine, though they have no disorder. A small quantity of the flour of brimstone will be found of great service, if occasionally given to swine. But the best way is to *prevent* disease, by keeping their styes clean and dry, and to allow them air, exercise, and plenty of clean straw.

Cure for Cattle swelled with green food.—Give a dose of train oil, which, after repeated trials, says the Farmer's Magazine, has been found to prove successful. The quantity of oil must vary according to the age and size of the animal. For a grown up beast give a pint, which must be administered with a bottle, taking care to rub the stomach well, in order to make it go down. After receiving this medicine it must be made to walk about, until such time as the swelling begins to subside.—*Cultivator.*

Management of Horses.

The feeding of horses is a thing which for the most part, is indifferently attended to in this country, and indeed the *system of feeding* which has been adopted, is but ill calculated to preserve these noble animals in full health and unimpaired in strength and vigor of body. With many planters and farmers, nothing but corn and oats, in the whole grain, are doled out from one end of the year to the other.—Now these are each highly nutritious and excellent substances, and well calculated to sustain horses under long continued and laborious work, but then are they not too heating to the blood, and too difficnlt of digestion to be given without change during the whole year? Would it not be better, putting the saving out of question, to reduce those grains to something like digestible substances? Whether the horse be fed upon corn or oats, in the whole grain, they necessarily void a large portion of them in precisely the same state in which they are received into his stomach. This fact is too well established to be denied at this late day, and hence it follows that all portions of grains which are eaten by the horse and not digested, serve but to irritate the coat of his stomach, inflame his blood, and, by necessary consequences, disease the whole system. The health of a man's family is very properly said to be dependent as much upon his cook as upon any other earthly agent, whether referable to physical or atmospheric causes. Writers upon human health invariably recommend plainness of diet, moderation of eating, exercise, and general temperance, and the substances commended to favor, are those which afford the most bland nutrition, and which are easiest of convertion into chyle. If these recommendations hold good with respect to human diet, we would ask are not the same general laws of nature applicable to the horse? If man lives luxuriantly and feeds upon high seasoned and luscious food, the chances are as ten to one against him that he will get the gout, or some inflammatory disease; and if he feeds upon substances difficult of digestion, he is just as sure to be visited with that worse than pestilent distemper—the dyspepsia. Ah! but would you compare the horse to man? we think we hear some one ask; and lest our motives may be mistaken, we will take the liberty of replying to the query in advance of its being solemnly put on us.

We do not compare the horse to the man, but we hold it as of a truth which admits not of contradiction, that all the alimentary substances, to be profitable to the stomach of either man or horse, should be not only nutritious and bland, but should be eaten in that state in which it is best calculated to undergo the digestive process. Mastication does much to prepare the food of the horse for that operation; but the evidences which are afforded by the substances voided by this animal, incontestably show that it fails most lamentably in the performance of this highly necessary work. In England, where the management of stock generally, and particularly of the horse, is reduced to a matter of science, but few intelligent feeders think of giving food to that animal in an uncrushed state; nor do they confine them to grain feeding alone, and for the assigned reason, that it is too *heating*. Potatoes and ruta baga form a part of the feed of studs of most English country gentlemen; by which means they keep their horses in better health; the occasional feeding with roots serving to open their bowels, cool their blood, determine the secretions to the surface, render the skin loose, and the hair silky and healthy. We have said, independently of the saving which is thus effected, the other reasons are sufficient to justify a resort to practice, and we would ask are not the melioration with the animal to which we have just alluded sufficient of itself, to make it an object worthy of every consideration? We think it is, and should be rejoiced to find that our suggestions were improved upon by American horse owners, for we honestly believe that infinite good both to the master and beast would inevitably result from it.—*Farmer and Gardener.*

Turnep Fly.

Mr. Editor,—Looking over an old newspaper the other day, I noticed some experiments tried on Turnep seed, to prevent the destructive ravages of the Turnep Fly, or Grub, which are sometimes very extensive. The experimentalist stated that he discovered that the leaves were eaten almost as soon as the plants are up, so that the field was as brown as before it was sown. He thought at first that the insect might have proceeded from other plants, or the hedges. Accordingly he took some earth from his garden and placed it in a box, sowed his turnep seed in it, and covered it with silk gauze, so that

no insect could enter; but he found them there as destructive as in the open field. He then took some earth and boiled it in the box, and sowed the seed, watering it with water also boiled, with no better success than before. Having thus satisfied himself that it proceeded neither from other plants, nor contained in the earth or water, he turned his attention to the seed, on which, by the help of a magnifying glass, he found small white flattish substances, which he concluded were eggs. On some seeds he found none; but generally two or three, and in some instances five on a single seed. The difficulty was now to destroy them. To accomplish this he made some strong brine and soaked the seed in it twenty-four hours. It being dried thoroughly, he then sowed it with all the care mentioned above, and not a single fly was found nor turnep injured. He found that if the brine was sufficiently strong, three hours soaking was enough. He says, "I now practice this method with turnep seed, cabbage seed, and in fact with all the various plants in common cultivation, with very satisfactory success. The whole of these experiments were made on the Swedish turnep, which is generally more infested by these beetles than any of the other sorts."

A correspondent of the American Farmer says that he destroyed all the caterpillars on his fruit trees, by using mobs of cloth dipped in salt water, and conveyed to the nests on the end of long poles. Salt water in which pickles have been preserved, or meat or fish brine may be used with economy for this purpose. Some destroy caterpillars by throwing a turf into their nests; others by a burning match of brimstone held under their nests; and others apply fish oil. The application of soap suds is a very cheap and easy method of destroying them, and the suds will be a benefit to the trees.—*Yankee Farmer.*

THE DAIRY.-NO. III.
Cheese Making.

The production of cheese includes the making of rennet, the selection of a coloring matter, the setting of the curd, and the management of the cheese in the press. The milk, fresh drawn from the cow, is to be immediately strained into the dishes, or shallow troughs, if these are used, in order to promote cooling, as the surest guard against fermentation. The same object may be obtained by frequently drawing off the milk from the coolers, and pouring it back again.

What is called rennet, is nothing more than the stomach of an animal in which the gastric juices are preserved by salt. The application of any kind of acid will cause milk to coagulate, as well as the infusion of several plants, as ladies' bed straw, butterwort, and others. The maw, or stomach of ruminating animals, which admit of obtaining the gastric juice in a less mixed state than those of others, and chiefly of a young calf that has been killed before the digestion is perfected, is almost universally preferred as rennet. When the bag is first taken from the animal, the curd should be taken out, and, after it is thoroughly washed, it should be entirely covered with salt, inside and out. It is then put into an earthen jar, or other vessel, for three or four days, when it is taken out and hung up for two or three days, to let the pickle drain from it. It is now re-salted, placed in a jar, covered tight down with paper, pierced with a large pin, and in this state it is left till wanted for use. It ought to be kept in this way for twelve months; it may, however, in case of necessity, be used a few days after it has received a second salting; but it will not be so strong as if kept a longer period. Marshal gives the following directions to prepare this rennet for use:—

"Take a handful of the leaves of sweet briar, the same quantity of the leaves of the dog rose, and the like quantity of bramble leaves. Boil them in a gallon of water, with three or four handfuls of salt, about a quarter of an hour. Strain off the liquor, and having let it stand till perfectly cool, put it into an earthen vessel, and add to it the maw, prepared as above. To this add a good sound lemon, stuck round with about a quarter of an ounce of cloves, which gives the rennet an agreeable flavor."

The strength of the rennet thus prepared, will increase in proportion to the length of time during which the bag remains in the liquor. The quantity to be used for the purpose of coagulating milk, can, therefore, only be ascertained by daily use and occupation. In general, however, it may be stated, on the average, that sometimes less than half a pint will suffice for fifty gallons of milk. Throughout the whole process of preparing and preserving rennet, too much attention cannot be given to its cleanliness and sweetness; for if it be kept too long, so as to become foul or tainted, the cheese will invariably become affected by it, and will prove unfit for use.

Formerly, turmeric, marigolds, hawthorn buds, and other vegetables, were used for giving a color to cheese; but these have long since been rejected, in all good dairies, for the *Spanish Arnotto*, which is unquestionably the best ingredient of the kind that can be used for that purpose. It is a preparation of the *roucon*, (*Bixa orellana*) which grows in

this country. The red pulp that covers the seeds of this tree, is suspended in hot water, and allowed to subside; and, when dry, is formed into cakes or balls, which are further set aside until they become dry and firm. One ounce of this substance, when genuine, will be sufficient to color a hundred weight of cheese. The usual mode of applying the arnotto is, to dip a piece of the requisite size and weight in a bowl of milk, and rub it on a smooth stone, until the milk assumes a deep red color. This infusion is to be added to the milk of which cheese is intended to be made, in such a quantity as will impart to the whole a bright orange color, which will become the deeper in proportion to the age of the cheese. The mixing of the arnotto in no respects affects either its taste or smell.

In Cheshire, England, a somewhat different practice obtains. There, when the coloring matter is wanted, it is usual to tie up as much of the substance as may be deemed sufficient, in a linen rag, and putting it into half a pint of warm water, to let it stand over night. In the morning, immediately before the milk is coagulated, the whole of this infusion is mixed with it in the cheese tub, and the rag is dipped in the milk, and rubbed on the palm of the hand, until all the coloring matter is completely extracted. A more simple method is directed by Parkinson. "Take (says he) a piece about the size of a hazel nut; put it into a pint of milk the night before you intend to make cheese, and it will dissolve. Add it to the milk at the time the rennet is put in. This quantity will color a cheese of twenty pounds weight."

Dry Feet for Farmers.

There are few articles which have at once come into such general use, or which have been found applicable to so great a variety of practical purposes, as the common India rubber, or gum elastic of the shops. This substance is the production of a small tree, a species of myrtle growing in abundance in the tropical regions of Africa, Asia, and America; and is already becoming quite an article of traffic in those countries. It is procured by making an incision into the trees, from which a milk-like fluid flows, and is caught in vessels provided for that purpose. When partially dried, it is spread thinly over a ball of clay, and as the gum hardens, successive layers are added, until the desired thickness is obtained. The clay is now reduced to powder by beating, and the gum remains in the shape of a pear necked bottle, in which form it is most frequently imported. The gum is, however, now frequently found in other shapes, and its black appearance is owing to its exposure to the smoke in drying. There has hitherto been considerable difficulty in dissolving it, most of the common solvents used for the other gums producing little or no effect upon it. Purified naptha, or what in this country is usually termed Seneca oil, has been most frequently and successfully used for this purpose. One of the most valuable uses to which India rubber has been applied, is the rendering of leather, or boots and shoes, impervious to water, and thus securing that important requisite to health, dry feet. Various kinds of rubber paste and blacking have, within a few years, been offered to the public, all good no doubt, but still at such prices, that common farmers, who surely need a preservation of this kind against the effect of almost continued exposure, were not, to any considerable extent, able to avail themselves of the benefit. My object in this paper is to state for the benefit of my brother farmers, and all who have suffered as I have done, the consequences of wet feet, the manner in which I prepare this substance for my own use, and which I find to answer every desirable purpose. I take common tallow, say one pound, and melt it in a small kettle holding about two quarts; the ordinary skillet would answer the same end. I have ready for use, cut into as fine strips or pieces as may be convenient, from four to six ounces of India rubber and when the tallow begins to get pretty hot, I put in the gum, and gradually increase the heat, until by stirring I find it has completely dissolved, and incorporated with the tallow. While the process is going on, it will foam violently and large volumes of pungent smoke will be thrown off; but I have never known it to take fire, or other danger or inconvenience result from the preparation. When thus prepared, it is applied with a brush in the same manner as tallow to boots and shoes, and with the best effect. A small quantity of lamp black, combined with the mass when melted, will furnish blacking to the leather, and if any choose, they can add the usual ingredients for making a paste for polishing. Farmers, however, are gnerally content, if they can keep their boots and shoes simply blacked and water proof, and this, the proper application of the above cheap and easy preparation, will certainly ensure. That it cannot be injurious to leather, when used in this way, the nature of the substance and experience would both determine. For India rubber, I have always used old overshoes, of which a supply can in general be readily obtained, always rejecting the most worn, burned, or rather defective parts. The spring of the year is the time farmers are most exposed, and I am confident the use of this preparation will prevent many a rheumatic

twinge, if it should ward off nothing worse from him who is compelled to be out at all seasons.—*G. in the Genesee Farmer.*

Annual Cattle Show, &c.

In the third number of the Farmers' Cabinet, we announced the organization of the Agricultural Society of New Castle county, Delaware. We learn from the Wilmington Watchman, that the annual Cattle Show, Silk and Horticultural Exhibition of the Society, will take place on Wednesday, the 19th of October, (this month,) commencing at 9 o'clock A. M. and ending at 3 P. M., with the sale of Durham short horn cattle, horses, sheep, oxen, &c. &c. The Cattle Show will be held in the immediate vicinity of the city, and the Silk and Horticultural Exhibition in the City Hall, under the superintendence of the different Committees appointed for the purposes. On the same day, Dr. WILLIAM GIBBONS will read an Essay on Silk, pursuant to appointment. The following are the Judges appointed to award the premiums offered by the Society, viz:

On Neat Cattle—Edward Tatnall, J. J. Brindly, Dr. J. W. Thomson, Wm. Robinson, John C. Clark, Wm. Solomon, and John Platt.

On Horses—John Richardson, John Caldwell, Thomas Garrett, Philip Reybold, Thomas W. Robinson, Henry Whiteley, and John Higgins.

On Oxen and Swine—James Canby, Wm. Chandler, Richard Topham, John Clark, Col. Thos. Robinson, David Gemmill, Marcus E. Capelle.

On Sheep—Philip Reybold, Henry Latimer, Joseph Wetherall, J. P. Garesche, Samuel Canby, John Riddle, and Henry Dupont.

On Crops—James Price, James McCullough, Thomas Stockton, William J. Thurlock, Benjamin Webb, Jesse Gregg, and Philip Reybold, Jr.

On Farming Implements—Justa Justis, Thos. Baldwin, Samuel P. Johnson, James Canby, Benjamin Webb, John Reybold, Washington E. Moore.

On Butter and Oil—Eli Hillis, Willard Hall, James Webb, N. G. Williamson, Charles Dupont, John Wales, Wm. Hemphill Jones.

On Beet Sugar—Merritt Canby, Dr. H. Gibbons, Washington Rice, Dr. H. F. Askew, John L. Robinson, John Bonney, Edward Grubb.

On Silk—Dr. Wm. Gibbons, John H. Price, P. B. Delaney, Wm. P. Brobson, Alexander S. Read, Thomas J. Higgins, John Andrews.

On Vegetables—J. A. Bayard, J. T. Price, Enoch Roberts, Jacob Caulk, Anthony Bidderman, Anthony Higgins, John Jones.

On Fruit—Wm. R. Sellars, R. H. Bayard, Dr. J. W. Thomson, Edward Canby, George Griffin, W. E. Moore, Samuel Wolleston.

On Flowers—Merritt Canby, J. Garesche, George Reynolds, Dr. J. S. Naudain, Henry M. Bayard, Edward Grubb, Z. B. Glazier.

The following gentlemen were appointed a Committee of Management of the Cattle Show, to whom all persons having horses, cattle, &c. to exhibit, will please to refer for information: Samuel Wollaston, Wm. Chandler, W. R. Sellars, Thomas W. Robinson.

Horticulture and Botany.

See various trees their various fruits produce,
Some for delightful taste, and some for use;
See, sprouting plants enrich the plain and wood,
For physic some, and some design'd for food;
See, fragrant flowers, with different colors dy'd
On smiling meads unfold their gaudy pride.
Blackmore.

Vegetable Vitality.

No. II.

We lately passed the season of winter, during which the vegetable world was stripped of all its beauties. We have been since visited with the genial showers of spring. The surface of the earth became vitalized, and the general process of vegetation every where commenced. The particles of unorganized matter thus rendered visible, rushed into vegetable life, and, under the organic influence of previously formed plants, or seeds, their active energies have been rendered subservient to all the changes of the vegetable process. We have already stated that the quickened particles of unorganized matter possess a secretive power; consequently we may form some idea of the vegetating principle by which the seeds of plants, when placed in the vitalized soil of spring, unfold themselves into beautiful groups of flowers, and how the majestic oaks of the forest become annually clothed with their innumerable leaves.

What can be more natural than that the little secreting agents, recently discovered by the compound microscope, when quickened by showers, and a due proportion of light and heat, should ascend with the sap, and pass through the branches to the buds of trees, and there assisting in unfolding the leaves, and carrying on the vegetable process; and that, as the summer retires, and as they have performed their appointed duty, they should drop, with their airy habitation, to their mother earth, and again lie dormant till the reviving breath of another spring shall quicken them for all the purposes of future vegetation? In a lecture delivered by the late Dr. PASCALIS, on the animalization of plants, at the celebration of the birth-day of Linnæus, on the 24th May, 1823, that scientific gentlemen endeavored to show that insects were formed *from* plants. He alluded to the *Aphides*, the life of which, he said, regularly commences with the buds or gemma of plants; the *meloes* formed from the pollen or farina

of flowers; the variety of insects to be found in the seeds and fruits of plants; and the book worm, the mite, siro, &c., in the most compact wood, and in the most confined recesses of the bark of the trees, and that without the assistance of decomposition. This theory was certainly novel, and the facts adduced to support it numerous and interesting. But had the doctor been aware of the existence of those linear organic, though to our sight, imperceptible objects, now known to exist in all matter, and which are evidently the principle of vitality, he would, I am persuaded, have reversed his position; and, instead of maintaing that insects were formed *by* plants, admitted that plants owed their vital energies to a race of animated little beings, which, as we have seen, hold so important a place in the economy of nature.

We have been particular in noticing the results of vegetable infusions, because they furnish a better connected train of simple facts than any other results whatever. But if *animal* matter is subjected to the same process, changes are met with scarcely differing from those obtained by vegetable infusions. When a small portion of animal matter is infused in a wine glass of water, the water will, in a short time, be filled with little linear bodies, which in a few days increase to a larger and globular shape. These afterwards assume a form of a still larger kind, and somewhat elongated.

We have endeavored to show that the energy, which so strikingly displays itself in the process of infusion, is also plainly recognized in the leaves and stems of vegetables; and if we attentively examine the larger animalcules of infusion, and compare them with some of the lower links of animals, we shall see that they strongly approximate with each other in their general character. The larva of flies, for instance, is peculiarly illustrative of this character. If a puncture is made in their external coating, nearly the whole of their internal parts will quit them in a liquid form, and if this fluid matter is instantly examined by the microscope, it will be found full of small active linear bodies, similar to those obtained by infusion. The same result is discoverable if we subject the mites of cheese and small flies to a similar inspection. If we ascend to higher links in the scale, and even refer to man, we shall be satisfied that several changes which take place in the human frame, are influenced by the same principle.

To illustrate this, let a small portion of human blood be examined by the microscope, and we shall find the same vital appearances obtained from the inferior classes of animated beings. This fact is in unison with the general views of the celebrated John Hunter, who observes, "I had long suspected that the principle of life was not wholly confined to animals or animal substances endowed with visible organization, and spontaneous motion; I conceived that the same principle existed in animal substances devoid of apparent organization and motion, where there existed simply the powers of preservation." Murray, in speaking of what are termed animal secretions, remarks: "From the description of this process, it is evident that it consists of a series of chemical actions; but if we endeavor to investigate how these are effected, or inquire by what law these new chemical powers are formed, we find ourselves engaged in a task of the most difficult kind." It is evident that these eminent writers, as well as many others who have treated on the same subject, were aware of the difficulties in attending it; and they very properly inferred, on irresistible evidence, that a vital energy must be concerned in these processes, though they scarcely made an attempt to point out the manner or principle by which this force brought about the results in question.

The Rock Samphire.

Botanical topography, which treats of the stations as well as of the habitations of vegetables, is a subject not wholly without interest and value. It is well known that very

The Rock Samphire.—Fig. 11.

different plants abound in different soils; that some grow on land, and some in water,

that some like one, and some another situation. For example, to take plants which are very closely allied, the *lichens* are dry plants, and never grow under water; the *fuci* are watery plants, and never grow out of water; and the same may be said of many other plants, some of which are, as it were, the living boundaries of land and sea: thus the Samphire (*Crithmum Maritimum*) never grows but on the sea-shore, and yet it never grows within reach of the waves,—that is to say, it is never so near as to be wholly covered by the waters. It happened not long since, that a knowledge of this fact was useful in a way and at a time when botanic knowledge might, beforehand, have been expected to be of little practical importance.

During a violent storm in November, 1831, a vessel passing through the English Channel, was driven on shore near Beachy Head; and the whole of the crew being washed overboard, four escaped from the wreck, only to be delivered as they thought to a more lingering and fearful, from its being a more gradual and equally inevitable death; for, having in the darkness of the night been cast upon the breakers, they found, when they had climbed up the highest of these low rocks, that the waves were rapidly encroaching on their asylum; and they doubted not, that when the tide should be at its height, the whole range would be entirely covered with water. The darkness of the night prevented any thing being seen beyond the spot upon which they stood, and this was continually decreasing by the successive encroachments of each advancing wave. The violence of the storm left no hope that their feeble voices, even if raised to the uttermost, could be heard on shore; and they knew that amidst the howling of the blast, their cries could reach no other ear than that of God. What human arm could give assistance in such a situation? even if their distresses were known, how vain were the help of man! The circle of their existence here seemed gradually lessening before their eyes; their little span of earth gradually contracting to their destruction: already they had climbed to the highest points, and already the furious waters followed them, flinging over their devoted heads the foremost waves, as heralds of their speedily approaching dissolution. At this moment, one of these wretched men, while they were debating whether they should not, in this extremity of ill, throw themselves upon the mercy of the waves, hoping to be cast upon some higher ground, as, even if they failed to reach it, a sudden would be better than a lingering death—in this dire extremity, one of these despairing creatures, to hold himself more firmly to the rock, grasped a weed, which, even wet as it was, he well knew, as the lightning's sudden flash afforded a momentary glare, was not a fucus, but a root of Samphire; and he recollected that this plant never grows under water. This then became more than an olive branch of peace, a messenger of mercy; by it they knew that He who alone can calm the raging of the seas, at whose voice alone the winds and the waves are still, had placed his landmark, had planted his standard here, and by this sign they were assured that He had said to the wild waste of waters, "Hitherto shalt thou come, and no further." Trusting, then, to the promise of this Angel of the Earth, they remained stationary during the remainder of that dreadful, but then comparatively happy night; and in the morning they were seen from the cliffs above, and conveyed in safety to the shore.—BURNETT'S *Introductory Lecture.*

Samphire, or *St. Peter's Wort*, very probably derives its English name, as etymologists contend, from the French name, "*Herbe de St. Pierre*," and hence, if such be the case, it would be more correctly written, according to Smith, *Sampire*, or, as degenerated from *St. Pierre*, san-pire. The botanical name Crithmum has been given to this plant from the resemblance its seeds bear to grains of barley, the *crithe* of the Greeks.

The Philadelphia Horticultural Society

Closed its ninth annual exhibition at the Masonic Hall, on Friday evening the 23d September. We learn that it was of the most gratifying character. We were not able to attend, but as the Secretary has kindly offered to furnish us with an account of the exhibition, our readers may expect it in our next.

Apples for Hogs.

We have frequent enquiries, says the Cultivator, for trees of sweet apples, to cultivate for hogs and other farm stock, as though none but sweet apples were fit for that purpose. This opinion originates from a misapprehension of the qualities of the apple. In the first place, the nutritive property of the apple consists principally in the saccharine matter which it contains. This is determined by the specific gravity of its juice—the heavier this, the more saccharine matter it contains. Now the heaviest juice is found in acid as well as sweet apples. The acid is superadded to the sweet. In the second place, sour apples are as grateful to the stomach, and so they are to the stomach of our farm stock, as sweet apples are, and a mixture is at least desirable. Sweet apples soon clog the stomach. A friend related so us, a few days ago, that he last year turned

his hogs into his orchard to eat the falling fruit; that the orchard being large, the hogs were able to consume only a part of the apples; that he had several times went into the orchard to ascertain which they preferred, the sweet or the sour; that he uniformly found that they selected from both, and that they rejected as many of the sweet as of the sour. Hence sour apples are nutritious, and as palatable to man and beast, as sweet apples, and ought to be as extensively cultivated.

Geological Definitions.

The Primitive Earths, are four; clay, sand, lime and magnesia.

Clay, is called by Geologists, alumia, alumine or argellaceous earth.

Sand, is called silex, silica, silicious earth, or earth of flints.

Lime, as it exists in the soil, is commonly called calcareous earth. The term calcareous is not properly applied to any soil, unless it will effervesce with acids.

Each of these earths answer a determinate and specific purpose in the economy and growth of plants; and the perfection of soil lies in a mixture of the whole.

Basis of the whole. The primitive earths which enter into its composition.

Vegetable matter. All vegetable substances in a decaying or rotton state.

Animal matter. All animal substances in a putrifying state.

Organic matter. A term applicable to both animal and vegetable substances in a putrifying state.

Vegetable mould. The earthly remains of vegetable substances which have either grown and decayed on the soil, or have been conveyed thither in the progress of cultivation.

Loam, is a combination of vegetable mould with the primitive earths.

Lime, is a substance consisting of lime with a small portion of clay, and sometimes of peat, with a marine sand and animal remains. It is useful as manure, and is distinguished by *shell clay* and *stone* marl.

Management of Bees.

Most people are fond of honey, and many are also fond of bestowing upon *Bees* those cares which seem necessary to render them the most profitable. One of the most troublesome parts of the management of these republicans, is the time when, from an overpopulation, like the New-England States, they see fit to emigrate or swarm, as the time which they select for this, is not always the most convenient for the farmer to attend to them. Now it is with this, as with other business of agriculture; it should be done in proper season, and when it will best suit the convenience of the superintendent. As to the prosperity of the bees, it is altogether indifferent whether they fix upon the time of emigration or whether the husbandman does, so that he uses judgment in the matter. If he finds in the month of May or June that any of his hives are overstocked with bees, he should remove them into another, which, if repeated as often as the old hive becomes over-stocked, will prevent their swarming at all. Swarms separated from the parent hive in this way, do equally as well as when left to fly out and separate themselves, besides much time and loss of honey is saved; for when a hive becomes over-stocked, the major part of the bees which constitute afterwards the new swarm, do not work at all, but live upon the honey produced by the old and more industrious part of the community, and the quicker they are taken off after their number is sufficient to form a well regulated republic, the better.

For doing this, let the old hive be turned bottom upwards, and the new hive set upon it; strike lightly upon the lower hive, and many of the bees will ascend into the upper hive; when a sufficient number has collected in the new hive for a swarm, take it off and set it upon the bench, and return the old one to its former position. In doing this, to insure success, it is necessary that one of the queens should accompany the new swarm, which may be known in the course of a day or two; for if they have no queen, they will not stay in the new hive, but will return to the old one; but if they have a queen, some of the bees may be seen in the course of twenty-four hours, standing near the entrance into the hive, amusing themselves by raising their bodies to the full length of their legs, and giving their wings a rapid motion, making a steady buzzing noise. This may be considered as an indication of their satisfaction and the success of the operation. Some consider mid-day the most favorable time for doing this; others, again, prefer the evening but either will answer, and the trouble attending is not greater than that of hiving them when the swarms are allowed to come out in the common manner, and the danger of having them go off is avoided. Another very great advantage of this method is, the young swarms commence working early, by which they are more certain of laying up sufficient food for winter. Where the common shaped hives are to be continued, we would recommend to those who are keeping bees, to try one or two swarms as above, which will give them more satisfactory evidence, either for or against the practice, than all that can be written on the subject. The

present price of bees in this section of country, we believe to be about five dollars for a good hive in the spring; such as will give on an average, two swarms during the summer. This, after deducting for the trouble of the taking care of them, is a great profit. Each hive of bees that are in good condition in the spring, will make enough honey over their own wants, to pay well for taking care of them, and leaving a profit of two hundred per cent. Now if this can be realized, what better business can a farmer ask for? Surely we have a land "flowing with milk and honey."

We are informed that the following easy method of taking the honey without destroying the bees, is generally practiced in France with great success. In the dusk of the evening, when the bees are quietly lodged, approach the hive, and turn it gently over. Having steadily placed it in a small pit, previously dug to receive it, with its bottom upwards, cover it with a clean new hive, which has been properly prepared, with a few sticks across the inside of it, and rubbed with aromatic herbs: then having carefully adjusted the mouth of each hive to the other, so that no aperture remain between them, take a small stick, and beat gently round the sides of the lower hive for about ten minutes. in which time the bees will leave their cells in the old hive, ascend and adhere to the new one. Then gently lift the upper hive, with all its little tenants, and place it on the stand from which the other was taken. This should be done some time in the week preceding mid-summer day, that the bees may have time, before the summer flowers are faded, to lay in a new stock of honey, which they will not fail to do for their subsistence through the winter.

Yest.—The following methods for making yest for bread, are easy and expeditious. Boil one pound of good flour, a quarter of a pound of brown sugar, and a little salt, in two gallons of water, for an hour; when milk warm, bottle it and cork it tight; it will be fit for use in twenty-four hours.—One pint of it will make ten pounds of bread.—To a pound of mashed potatoes, (mealy ones are best,) add two ounces of brown sugar, and two spoonsful of common yest, the potatoes first to be pulped through a cullender, and mixed with warm water to a proper consistence. A pound of potatoes will make a quart of good yest. Keep it moderately warm by fermenting.

Manure.—The gross annual value of the manure used in Great Britain and Ireland, is estimated at the enormous sum of 20,000,000 pounds sterling.

The Husbandman's Prayer.

BY H. S. ELLENWOOD.

O THOU! whose wisdom power, and love,
This world, and all its creatures, prove;
The fertile field and fruitful trees,
Thrive, or decay, as thou shalt please;
And human art and toil are vain,
If thou withhold thy sun and rain!—
Still may thy bounteous Providence,
All wish'd—all needful good dispense.

When brumal storms have spent their power,
And SPRING expandeth many a flower,
May ne'er the frosts that fall at night,
The seeds of future harvest blight;
May ne'er the blushing blossom yield
To storms that devastate the field:—
From such, and from too piercing air,
The new-shorn lamb—and nestling—spare.

In SUMMER, when thy solar ray
Is felt through all th' enfeebled day,
Mild be his genial beams, without
Contagion's force, or parching drought,
And, frequent, may the full-fraught cloud
The azure arch of heaven enshroud,
That gentle moisture, temp'rate heat,
A plenteous harvest may complete.

When AUTUMN'S treasures spread around,
And garners teem, and fruits abound,
Then shall the HUSBANDMAN upraise
To thee his Hymn of Praise;
To thee, who gavest, not in vain,
The early and the latter rain;
To thee, whose promise doth avail—
"*Seed time and Harvest ne'er shall fail.*"

GOD OF THE SEASONS! let thy care
Preside o'er each revolving year!
May Health, fair queen of blessings! crown
Each city—and each rural town—
While sweet content, and heart-felt joy
This Land of Freedom shall employ—
THEE, may thy offspring—man—adore,
Till Time—and Seasons—change no more.

AGRICULTURE was the first, and should ever be the most esteemed of all pursuits. How happy would it be for hundreds and thousands of our young men, if they could be persuaded that a few acres of ground are a better capital than as many thousands of dollars procured by writing their names at the bottom of a negotiable note; and what years of misery might be saved, if men would believe that a dollar actually earned by honorable and healthy labor as farmers and mechanics, is worth a hundred in prospect to be gained in trade and speculations.

INTERESTING TO HORSES.—"A Friend to the Horse," in the Pittsburgh Gazette, cautions owners of horses against putting cold bridle bits into the mouth of the horse when the weather is much below the freezing point; by doing so, the consequence is, that whenever the bit touches the tongue or lips, the skin will come off, as if burnt with a hot iron.—Hence, the sore tongue in horses so often complained of and suffered. This fact should be made known, and the practice of warming the bits observed in all northern latitudes, where the thermometer ranges between zero and the freezing temperature. If any one doubts the truth of these remarks, let him put his tongue to a piece of exposed iron in a cold morning, and he will doubt it no longer.

GENIUS VS. LABOR.—"Of what use is all your studying and your books?" said an honest farmer to an ingenious artist. "They don't make the corn grow, nor produce vegetables for the market. My sam does more good with his plough in one month, than you can do with your books and papers in one year."

"What plough does your son use?" said the artist quietly.

"Why he uses ———'s plough to be sure. I can do nothing with any other. By using this plough, we save half the labor, and raise three times as much as we did with the old wooden concern."

The artist quietly turned over one of his sheets and showed the farmer a drawing of the lauded plough, saying, "I am the inventor of your favorite plough, and my name is ———."

The astonished farmer shook the artist heartily by the hand, and invited him to call at the farmhouse and make it his home as he liked.

Our Country.

On no country more than ours, have the charms of nature been more prodigally bestowed; her mighty lakes like oceans of liquid silver—her mountains with her bright ærial tints—her valleys teeming with fertility—her tremendous cataracts thundering in their solitude—her boundless plains waving with spontaneous verdure—her broad deep rivers rolling in solemn silence to the ocean—her trackless forests, where vegetation puts forth all her magnificence—her skies kindling with the magic of summer clouds and glorious sunshine—no, never need an American look beyond his own country for the sublime and beautiful of natural scenery.—*Irving*.

Pursuits of Agriculture.

How pure, how pleasant are the pursuits of Agriculture.—What more delightful than to watch the opening sweets of Nature—to trace the germ as it unfolds the early bud, the opening flower—and as it ripens into the rich variety of autumnal fruits.—What pursuits better calculated to improve, expand, and elevate the mind of man, "to lead from Nature up to Nature's God." And yet how many farmers are discontented with the lot where fortune or providence has placed them—How many seek for other, and easier employments—How many dream of wealth and ease without the toils and hardship of labor to acquire it.—Let such know that every situation in life has its share of trouble and of care and few if any, less than those who cultivate the soil.

Not dependent upon the smiles, the caprice, or the promises of his fellow-man—his confidence is strong—his promise sure that "seed-time and harvest" shall *never* fail.—With the utmost assurance he can look foward to the operations of Nature, with a cheering, a certain prospect of an ample reward, for all the labors of honest industry bestowed on the cultivation of a fertile soil.

Farmers—yours are the *true* sources of wealth;—yours, the fountains from whence flow the peaceful streams of contentment and of *real* enjoyment;—yours, though a life of labor and industry, is a life free from the thousand temptations which surround the indolent, the vicious, and the votaries of pleasure.

GRAVEL WALKS.—The following cheap improvement has been recommended in the circumstance of walks in gardens, lawns, &c. uniting the advantages of great hardness, durability, and freedom from worms and insects. When a new walk is made or an old one reformed, take the necessary quantity of road scraping, previously dried in the air, and reduced as fine as possible; mix with the heap enough of coal-tar from a gas work, so that the whole shall be sufficiently saturated, and then add a quantity of gravel;—with this lay a thick stratum as a foundation, and then cover it with a thin coating of gravel. In a short time the walk will be as hard as a rock, not affected by wet, or disfigured by worms.—*Register of Arts.*

If you are ever so sure that you ought to resent an injury, at least put off your resentment till you are cool. You will gain every end better by that means; whereas you may do yourself or your neighbor great mischief by proceeding rashly and hastily.